

Supporting Information
of
Preparation and characterization of lanthanide-azo-dye coordination polymers and
polymer thin films *via* layer-by-layer depositions

Li-Wei Han^{a,b}, Jian Lü^{a,*}, Tian-Fu Liu^a, Shui-Ying Gao^a, Rong Cao^{a,*}

^aState Key Laboratory of Structural Chemistry, Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, Fujian, Fuzhou, 350002, P. R. China; ^bGraduate School, Chinese Academy of Sciences, Beijing, 100039, P. R. China

Table S1 Selected bond lengths (Å) of compound **4** (top) and **7** (bottom).

Table S2 Solution stabilities of tartrazine and dye compound versus base.

Fig. S1 UV-vis spectra of tartrazine and dye compound **1-4**.

Fig. S2 AFM height images of tartrazine (on mica, left), dye compound **1** (on mica, middle), and dye compound thin film (on silicon, right).

Fig. S3 IR spectra of dye compounds **1-4** and **5-8**.

Table S1

Compound 4			
Nd(1)-O(9)#1	2.409(7)	Nd(1)-O(1W)	2.524(8)
Nd(1)-O(3W)	2.459(7)	Nd(1)-O(3)	2.532(7)
Nd(1)-O(2W)	2.475(8)	Nd(1)-O(6W)	2.553(6)
Nd(1)-O(4W)	2.512(8)	Nd(1)-O(5W)	2.540(7)
Nd(1)-O(2)	2.641(7)		
Symmetry transformations used to generate equivalent atoms: #1 x-1/2,-y+3/2,z+1/2			
Compound 7			
Tm(1)-O(4)	2.290(5)	Tm(1)-O(6W)	2.352(6)
Tm(1)-O(9W)	2.299(6)	Tm(1)-O(7W)	2.369(7)
Tm(1)-O(3)	2.302(5)	Tm(1)-N(5)	2.458(7)
Tm(1)-O(8W)	2.297(6)	Tm(1)-N(6)	2.534(9)

Table S2

	EDA	$\text{NH}_3 \cdot \text{H}_2\text{O}$	Na_2O_3	NaOH
Lt				
dye compounds				

Fig. S1

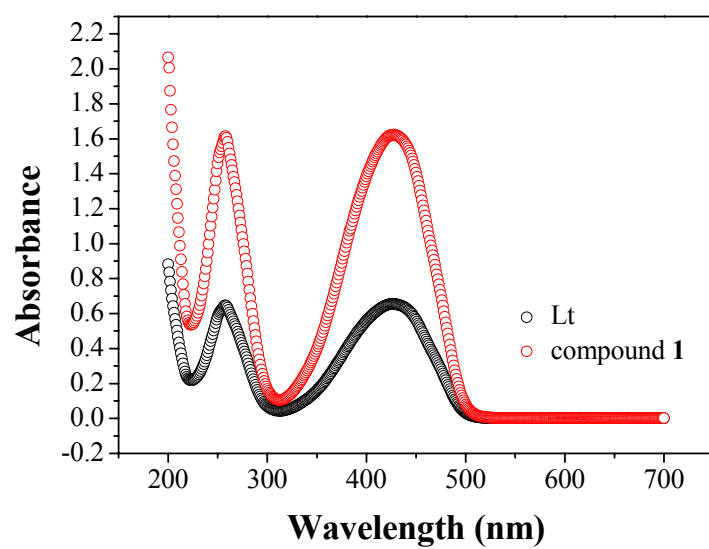


Fig. S2

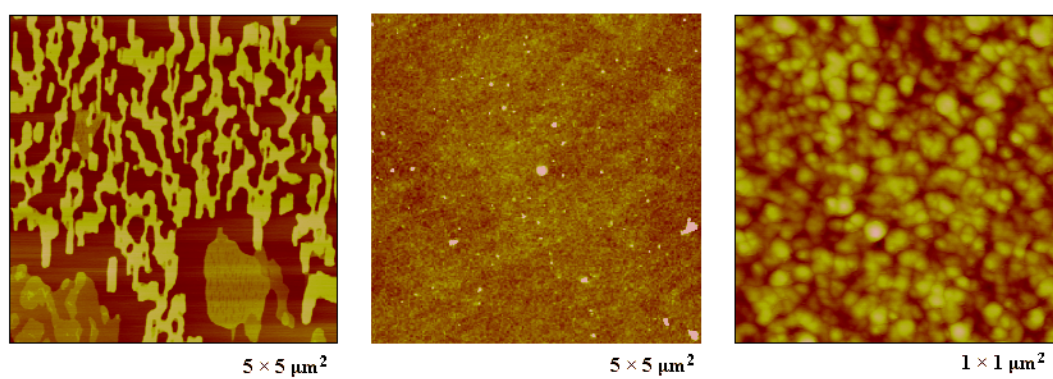


Fig. S3

